

[Federal Register Volume 82, Number 102 (Tuesday, May 30, 2017)]

[Rules and Regulations]

[Pages 24465-24468]

From the Federal Register Online via the Government Publishing Office [www.gpo.gov]

[FR Doc No: 2017-10408]

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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2017-0053; Directorate Identifier 2016-CE-037-AD; Amendment 39-18888; AD 2017-10-14]**

**RIN 2120-AA64**

#### **Airworthiness Directives; British Aerospace Regional Aircraft Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), Department of Transportation (DOT).

**ACTION:** Final rule.

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**SUMMARY:** We are superseding Airworthiness Directive (AD) 2014-07-07 for British Aerospace Regional Aircraft Model HP 137 Jetstream MK1, Jetstream Series 200, and Jetstream Series 3101 airplanes. This AD results from mandatory continuing airworthiness information (MCAI) issued by an aviation authority of another country to identify and correct an unsafe condition on an aviation product. The MCAI describes the unsafe condition as cracking of the forward main landing gear yoke pintle resulting from corrosion pits leading to stress corrosion cracking. We are issuing this AD to require actions to address the unsafe condition on these products.

**DATES:** This AD is effective July 5, 2017.

The Director of the Federal Register approved the incorporation by reference of a certain publications listed in the AD as of July 5, 2017.

**ADDRESSES:** You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2017-0053; or in person at the Docket Management Facility, U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

For service information identified in this AD, BAE Systems (Operations) Ltd, Customer Information Department, Prestwick International Airport, Ayrshire, KA9 2RW, Scotland, United Kingdom; phone: +44 1292 675207; fax: +44 1292 675704; email: [RApublications@baesystems.com](mailto:RApublications@baesystems.com); Internet: <http://www.jetstreamcentral.com>. You may view this referenced service information at the FAA, Small Airplane Directorate, 901 Locust, Kansas City, Missouri 64106. For information on the availability of this material at the FAA, call (816) 329-4148. It is also available on the Internet at <http://www.regulations.gov> by searching for Docket No. FAA-2017-0053.

**FOR FURTHER INFORMATION CONTACT:** Doug Rudolph, Aerospace Engineer, FAA, Small Airplane Directorate, 901 Locust, Room 301, Kansas City, Missouri 64106; telephone: (816) 329-4059; fax: (816) 329-4090; email: doug.rudolph@faa.gov.

## **SUPPLEMENTARY INFORMATION:**

### **Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to British Aerospace Regional Aircraft Model HP 137 Jetstream MK1, Jetstream Series 200, and Jetstream Series 3101 airplanes. That NPRM was published in the Federal Register on February 17, 2017 (82 FR 10973), and proposed to supersede AD 2014-07-07, Amendment 39-17821 (79 FR 23897; April 29, 2014) (“2014-07-07”).

The NPRM proposed to correct an unsafe condition for the specified products and was based on mandatory continuing airworthiness information (MCAI) originated by an aviation authority of another country. The MCAI states that:

Prompted by occurrences of the main landing gear (MLG) yoke pintle housing cracking, the Civil Aviation Authority (CAA) UK issued AD 003-01-86 to require repetitive inspections to detect cracks in the yoke pintle housing on MLG fitted to Jetstream 3100 aeroplanes in accordance with BAE Systems (Operations) Ltd Service Bulletin (SB) 32-A-JA851226, and, depending on findings, corrective action. After that AD was issued, an occurrence was reported of Jetstream 3100 MLG failure after landing. The subsequent investigation revealed stress corrosion cracking of the MLG yoke pintle housing to have caused this MLG failure. Furthermore, the investigation report recommended a review of the effectiveness of CAA UK AD 003-01-86 in finding cracks in the yoke pintle housing on MLG fitted to Jetstream 3100 aeroplanes.

Degradation of the surface protection by abrasion can occur when the forward face of the yoke pintle rotates against the pintle bearing, which introduces corrosion pits and, consequently, stress corrosion cracking.

This condition, if not detected and corrected, could lead to structural failure of the MLG, possibly resulting in loss of control of the aeroplane during take-off or landing runs.

To provide protection of the affected area of the MLG assembly spigot housing, BAE Systems (Operations) Ltd issued SB 32-JM7862 to provide instructions for installation of a protective washer, fitted at the forward spigot on both left hand and right hand MLG. Consequently, BAE Systems (Operations) Ltd issued SB 32-A-JA851226 Revision 05 to provide additional accomplishment instructions for a Non-destructive testing (NDT) inspection of MLG equipped with the protective washer installed in accordance with BAE Systems (Operations) Ltd SB 32-JM7862.

Consequently, EASA issued AD 2013-0208, retaining the requirements of CAA UK AD 003-01-86, which was superseded, and required implementation of revised inspection requirements, and, depending on findings, accomplishment of applicable corrective action(s). That AD also introduced an optional modification, which constituted terminating action for the inspections required by that AD.

Since that AD was issued, BAE Systems (Operations) Ltd has determined that the existing inspection procedure may not be effective in identifying stress corrosion

cracking in the pintle housing. Consequently BAE Systems (Operations) Ltd has published an improved inspection procedure in SB 32-A-JA851226 Revision 07. This improved inspection procedure has the ability to detect smaller corrosion pits and cracks that are proximate in size to those that will initiate stress corrosion.

For the reasons described above, this [EASA] AD retains the requirements of EASA AD 2013-0208, which is superseded, and requires MLG inspections in accordance with the improved procedure.

The MCAI can be found in the AD docket on the Internet at:  
<https://www.regulations.gov/document?D=FAA-2017-0053-0002>.

## **Comments**

We gave the public the opportunity to participate in developing this AD. We received no comments on the NPRM or on the determination of the cost to the public.

## **Conclusion**

We reviewed the relevant data and determined that air safety and the public interest require adopting the AD as proposed except for minor editorial changes. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM.

## **Related Service Information**

We reviewed British Aerospace Jetstream Series 3100 & 3200 Service Bulletin 32-A-JA851226, Revision 7, dated May 25, 2015. The service information describes procedures for nondestructive testing (NDT) and visual inspections of the main landing gear spigot housing for cracks and repair if necessary. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section of the final rule.

## **Costs of Compliance**

We estimate that this AD will affect 26 products of U.S. registry. We also estimate that it would take about 14 work-hours per product to comply with the basic requirements of this AD. The average labor rate is \$85 per work-hour.

Based on these figures, we estimate this cost of the AD on U.S. operators to be \$30,940, or \$1,190 per product.

In addition, we estimate that any necessary follow-on actions would take about 2 work-hours and require parts costing \$5,000, for a cost of \$5,170 per product. We have no way of determining the number of products that may need these actions.

## **Authority for This Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. "Subtitle VII: Aviation Programs," describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in “Subtitle VII, Part A, Subpart III, Section 44701: General requirements.” Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

## **Regulatory Findings**

We determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this AD:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska, and
- (4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

## **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2017-0053; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains the NPRM, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (telephone (800) 647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

## **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

## **Adoption of the Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

### **PART 39—AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by removing Amendment 39-17821 (82 FR 23897; April 29, 2014), and adding the following new AD:



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**2017-10-14 British Aerospace Regional Aircraft:** Amendment 39-18888; Docket No. FAA-2017-0053; Directorate Identifier 2016-CE-037-AD.

**(a) Effective Date**

This airworthiness directive (AD) becomes effective July 5, 2017.

**(b) Affected ADs**

This AD supersedes AD 2014-07-07, Amendment 39-17821 (79 FR 23897, April 29, 2014) ("2014-07-07").

**(c) Applicability**

This AD applies to British Aerospace (Operations) Limited Model HP.137 Jetstream Mk.1, Jetstream Series 200, and Jetstream Series 3101 airplanes, all serial numbers, certificated in any category.

**(d) Subject**

Air Transport Association of America (ATA) Code 32: Landing Gear.

**(e) Reason**

This AD was prompted by mandatory continuing airworthiness information (MCAI) issued by an aviation authority of another country to identify and correct an unsafe condition on an aviation product. The MCAI describes the unsafe condition as cracking of the forward main landing gear yoke pintle resulting from corrosion pits which can cause stress corrosion cracking resulting in loss of control during take-off or landing. We are issuing this AD to revise the inspection procedure to detect smaller corrosion pits and cracks that could initiate stress corrosion cracking.

**(f) Actions and Compliance**

Unless already done, do the following actions specified in paragraphs (f)(1) through (11) of this AD:

(1) For all airplanes: Before or at the next inspection that would have been required by AD 2014-07-07 or within the next 30 days after July 5, 2017 (the effective date of this AD), whichever occurs later, and repetitively thereafter at intervals not to exceed 12 months or 1,200 main landing gear (MLG) flight cycles (FC), whichever occurs first, do a nondestructive testing (NDT) inspection of each MLG assembly cylinder attachment spigot housing following the accomplishment instructions in Heroux Devtek Service Bulletin (SB) 32-19, Revision 7, dated March 16, 2015, as specified in the accomplishment instructions in paragraph 2.B. Part A of British Aerospace Jetstream Series 3100 & 3200 SB 32-A-JA851226, Revision 7, dated May 25, 2015.

(2) For all airplanes: Within 300 landings after a heavy or abnormal landing or within 3 months after a heavy or abnormal landing, whichever occurs first, do an NDT inspection of each MLG

assembly cylinder attachment spigot housing following the accomplishment instructions in Heroux Devtek Service Bulletin (SB) 32-19, Revision 7, dated March 16, 2015, as specified in the accomplishment instructions in paragraph 2.B. Part A of British Aerospace Jetstream Series 3100 & 3200 SB 32-A-JA851226, Revision 7, dated May 25, 2015.

(3) For all airplanes: Within 3 months after accomplishment of the latest NDT inspection required by paragraph (f)(1) of this AD or 300 MLG FC after accomplishment of the latest NDT inspection required by paragraph (f)(1) of this AD, whichever occurs first, and repetitively thereafter at intervals not to exceed 3 months or within 300 MLG FC, whichever occurs first, do a visual inspection of each MLG following the accomplishment instructions in paragraph 2.B. Part B of British Aerospace Jetstream Series 3100 & 3200 SB 32-A-JA851226, Revision 7, dated May 25, 2015. These inspections start over after every repetitive NDT inspection required by paragraph (f)(1) of this AD.

(4) For all airplanes with a MLG incorporating a microswitch hole: Within the next 10,600 MLG FC since new and repetitively thereafter at intervals not to exceed 1,200 MLG flight cycles, do an NDT inspection of each MLG microswitch hole following the accomplishment instructions in paragraph 2.B. Part C of British Aerospace Jetstream Series 3100 & 3200 SB 32-A-JA851226, Revision 7, dated May 25, 2015.

(5) For all airplanes: If any discrepancy is found during any NDT inspection required in paragraphs (f)(1), (2), or (4) of this AD, before further flight, take all necessary corrective actions following the instructions in British Aerospace Jetstream Series 3100 & 3200 SB 32-A-JA851226, Revision 7, dated May 25, 2015.

(6) For all airplanes: If any discrepancy is found during any visual inspection required in paragraph (f)(3) of this AD, before further flight, take all necessary corrective actions following the instructions in British Aerospace Jetstream Series 3100 & 3200 SB 32-A-JA851226, Revision 7, dated May 25, 2015.

(7) For all airplanes: Doing all necessary corrective actions required in paragraphs (f)(5) or (6) of this AD does not constitute terminating action for the inspections required by this AD.

(8) For all airplanes: Modification of each MLG cylinder following BAE Systems (Operations) Ltd. SB 32-JA880340 original issue, dated January 6, 1989, constitutes terminating action for the inspections required by this AD for that MLG.

(9) For all airplanes: The compliance times in paragraphs (f)(1), (2), (3), and (4) of this AD are presented in flight cycles (landings). If the total flight cycles have not been kept, multiply the total number of airplane hours time-in-service (TIS) by 0.75 to calculate the cycles. For the purposes of this AD:

- (i) 100 hours TIS x .75 = 75 cycles; and
- (ii) 1,000 hours TIS x .75 = 750 cycles.

#### **(g) Credit for Actions Done in Accordance With Previous Service Information**

(1) This AD allows credit for the initial inspection required in paragraph (f)(1) of this AD if done before June 3, 2014 (the effective date retained from AD 2014-07-07) following British Aerospace Jetstream Series 3100 & 3200 Service Bulletin 32-A-JA851226, Revision 5, dated April 30, 2013.

(2) This AD allows credit for the initial inspection required in paragraph (f)(4) of this AD if done before June 3, 2014 (the effective date retained from AD 2014-07-07) following APPH Ltd. Service Bulletin 32-40, at Initial Issue dated June 21, 1989; or APPH Ltd. Service Bulletin 32-40, Revision 1, dated February, 2003.

#### **(h) Other FAA AD Provisions**

The following provisions also apply to this AD:

(1) Alternative Methods of Compliance (AMOCs): The Manager, Standards Office, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR

39.19. Send information to ATTN: Doug Rudolph, Aerospace Engineer, FAA, Small Airplane Directorate, 901 Locust, Room 301, Kansas City, Missouri 64106; telephone: (816) 329-4059; fax: (816) 329-4090; email: [doug.rudolph@faa.gov](mailto:doug.rudolph@faa.gov). Before using any approved AMOC on any airplane to which the AMOC applies, notify your appropriate principal inspector (PI) in the FAA Flight Standards District Office (FSDO), or lacking a PI, your local FSDO.

(2) Airworthy Product: For any requirement in this AD to obtain corrective actions from a manufacturer or other source, use these actions if they are FAA-approved. Corrective actions are considered FAA-approved if they are approved by the State of Design Authority (or their delegated agent). You are required to assure the product is airworthy before it is returned to service.

(3) Reporting Requirements: For any reporting requirement in this AD, a federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB Control Number. The OMB Control Number for this information collection is 2120-0056. Public reporting for this collection of information is estimated to be approximately 5 minutes per response, including the time for reviewing instructions, completing and reviewing the collection of information. All responses to this collection of information are mandatory. Comments concerning the accuracy of this burden and suggestions for reducing the burden should be directed to the FAA at: 800 Independence Ave. SW., Washington, DC 20591, Attn: Information Collection Clearance Officer, AES-200.

#### **(i) Related Information**

Refer to MCAI European Aviation Safety Agency (EASA) AD No.: 2016-0224, dated November 9, 2016, for related information. The MCAI can be found in the AD docket on the Internet at: <https://www.regulations.gov/document?D=FAA-2017-0053-0002>.

#### **(j) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) British Aerospace Jetstream Series 3100 & 3200 Service Bulletin 32-A-JA851226, Revision 7, dated May 25, 2015.

(ii) Heroux Devtek Service Bulletin 32-19, Revision 7, dated March 16, 2015.

(3) For British Aerospace Regional Aircraft service information identified in this AD, contact BAE Systems (Operations) Ltd, Customer Information Department, Prestwick International Airport, Ayrshire, KA9 2RW, Scotland, United Kingdom; phone: +44 1292 675207, fax: +44 1292 675704; email: [RAPublications@baesystems.com](mailto:RAPublications@baesystems.com); Internet: <http://www.jetstreamcentral.com>.

(4) You may review copies of the referenced service information at the FAA, Small Airplane Directorate, 901 Locust, Kansas City, Missouri 64106. For information on the availability of this material at the FAA, call (816) 329-4148. In addition, you can access this service information on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2017-0053.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Kansas City, Missouri, on May 10, 2017.  
Melvin Johnson,  
Acting Manager, Small Airplane Directorate,  
Aircraft Certification Service.